STORY-BASED TEACHING (SBT)/DART INTEGRATION PROTOTYPE

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SPECIAL TECHNICAL REPORT

ON

SECOND EXPERT PLANNER
VIDEO INTERVIEW WORKSHOP

8 May 1992

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SRA
CORPORATION

SYSTEMS RESEARCH AND APPLICATIONS CORPORATION
331 SALEM PLACE, SUITE 200
FAIRVIEW HEIGHTS, ILLINOIS 62208

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Ray Bareiss
Roger C. Schank

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Prepared by

Systems Research and Applications Corp
331 Salem Place, Suite 200
Fairview Heights, IL 62208

Institute for the Learning Sciences
Northwestern University
Evanston, IL 60201

ABSTRACT

The Defense Advanced Research Projects Agency (DARPA) has initiated a project to develop a vehicle for demonstrating and evaluating the utility of user-directed browsing of large scale video knowledge bases, oriented toward Department of Defense (DoD) joint operation planners. The task requires two video-taped interview workshops.

This report covers the second and final series of video interviews conducted during the period 6 - 10 April 1992. During this interview workshop 16 persons with planning experience were interviewed by faculty and staff personnel of the Institute for the Learning Sciences (ILS).

These interviews concentrated on planning and deployment issues for Operation DESERT SHIELD (ODS). Although personnel from other sites were interviewed, the interviews continued to emphasize operations of the U.S. Transportation Command (USTRANSCOM) Crisis Action Team (CAT).

The video material obtained from the two interview workshops will be used to develop a demonstration prototype.

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Brian T. Thacker
Ray Bareiss
Roger C. Schank

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The Defense Advanced Research Projects Agency (DARPA) has initiated a task to develop a vehicle for demonstrating and evaluating the utility of user-directed browsing of large scale video knowledge bases, oriented toward Department of Defense (DoD) joint operation planners. The task required two video-taped interview workshops. This report covers the second and final series of video interviews conducted 6-10 April 1992, at the SRA facility in Fairview Heights, IL. During this interview workshop, 16 persons with planning experience were interviewed by ILS faculty and staff personnel. These interviews concentrated primarily on planning and deployment issues for Operation Desert Shield (ODS), and continued to emphasize USTRANSCOM CAT operations.

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SPECIAL TECHNICAL REPORT ON
SECOND EXPERT PLANNER VIDEO INTERVIEW WORKSHOP

CHAPTER 1 - BACKGROUND

1.1 Summary

This is the second technical report of the Defense Advanced Research Projects Agency (DARPA) Planning Initiative (PI) task, Story-based Teaching (SBT)/Dynamic Analysis and Replanning Tool (DART) Integration Prototype. The task provides a vehicle for demonstrating and evaluating the utility of user-directed browsing of large scale video knowledge bases by DoD joint planners.

This report details the second and final of the two video interview workshops required by the task.

1.2 Objectives

The end product of the task is a demonstration prototype of a large, multi-expert *ASK* system in the domain of DoD joint operation planning. (See the First Technical Report for a description of the ASK system concept.)

The demonstration prototype will operate in a stand-alone mode on a Macintosh computer system, using laser disks for video storage.

A video tape presentation of the demonstration system will also be produced.

User evaluation of the SBT concept, by potential DoD users, will be accomplished following delivery of the prototype. Future development activities will depend on the outcome of user evaluation.

1.3 Schedule

The SBT/DART Prototype Integration task is scheduled to run from January through August 1992. An abbreviated timetable is as follows:

ACTION	DATE
ILS Domain Training	Completed
Initial Interview Workshop	Completed
Second Interview Workshop	Completed
Initial Demonstration of SBT/DART Prototype	May-June 1992
Final Prototype Delivery	July 1992
Final Technical Report	August 1992

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CHAPTER 2 - VIDEO INTERVIEW WORKSHOPS

2.1 Need

The SBT process depends upon access to large scale video knowledge bases, compiled from many hours of video-taped interviews with experts in appropriate fields.

For this particular project video interviews must be conducted with knowledgeable personnel having applicable DoD joint planning experience.

2.2 Process

Two series of video interviews were conducted for this project, each series lasting approximately five days. Each individual interview included one or more experts and lasted about two hours.

The interviews were recorded on color video tape, under professional studio quality conditions.

The initial workshop was held at the SRA facility, Fairview Heights, Illinois, from 24 - 28 February 1992. That workshop provided 24 hours of raw video tape of interviews with 14 planning experts.

This second and final workshop was also held at the Fairview Heights SRA facility. Interviews with 16 persons were conducted during the week of 6 - 10 April 1992, and produced over 25 hours of raw video tape.

2.3 Interview Participants

As with the initial workshop, the final interview workshop was directed primarily toward personnel who were available in the Scott AFB area.

Background and experience of the 16 persons interviewed includes:

- U.S. Transportation Command (USTRANSCOM) Crisis Action Team (CAT), Director (General Officer)

- USTRANSCOM CAT, Executive Officer

- USTRANSCOM CAT, FDBM Chief

- USTRANSCOM CAT, FDBM action officer

- USTRANSCOM CAT, Logistics Cell member (2 persons)

- USTRANSCOM CAT, P&A Cell member

- USTRANSCOM CAT, Briefing Team member

- USTRANSCOM CAT, DART support (consultant)

- USTRANSCOM CAT, Reserve Group Chief

- USTRANSCOM Watch Team member

- USTRANSCOM Liaison support officer to U.S. Central Command (USCENTCOM) (2 persons)

- HQ US Army (Staff) Operations Center planner

- HQ Military Sealift Command (MSC) CAT, planners (2 persons)

2.4 Summary of Overall Coverage

Between the two interview workshops all primary areas of the USTRANSCOM CAT were examined. Special CAT staff and HQ administrative functional areas were not covered, due to schedule limitations.

In addition to the USTRANSCOM CAT, interviews were conducted with experienced Operation DESERT SHIELD (ODS) personnel from:

- HQ Military Airlift Command.

- HQ MSC.

- HQ US Army.

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- U.S. Army, Pacific (USARPAC).

- USTRANSCOM, who provided liaison and on-site support to U.S. European Command (USEUCOM) and USCENTCOM (both rear and forward HQ).

- Army unit-level transportation activities.

To provide a more comprehensive planning perspective, several persons with deliberate planning experience, including DART operations, were also interviewed.

Many other persons with useful and desirable experience in the crisis and deliberate planning arenas were considered for interview. However, lack of available time (due to the short duration of this project) precluded their inclusion in the workshops.

2.5 Personnel Travel

The second interview workshop included several government personnel who flew to the St. Louis area in order to participate. Travel funding was provided through DARPA and Rome Lab.

CHAPTER 3 - IMPORTANT FINDINGS AND CONCLUSIONS

The results of the first interview workshop were used as a guide for changes and improvements in the interview process. Additional lessons were learned, and previous lessons reinforced.

3.1 Facilities

All interviews of this workshop were conducted in a large open room, arranged so that the interviewer sat near, and directly in front of, the persons being interviewed, without an intervening table.

This arrangement provided a more relaxed interview atmosphere, made the camera presence less obtrusive, and provided greater flexibility for setting up camera angles and lighting.

Future interview workshops should continue to emphasize the following factors:

- Sufficient stable power and cooling for the video equipment.

- Low noise levels in the interview area, including noise created by the air conditioning system.

3.2 Interview Preparation

Interview preparation continued to be an important step in facilitating and motivating interview participants, and in establishing direction for the interviewing staff.

Prior to each interview, the interview participants were provided a package discussing the goals and methods of the interview process and the envisioned functions of the target system. In addition, a lengthy pre-interview briefing session was conducted to review that particular interview participant's job, and the kinds of things that he or she was qualified and comfortable to talk about.

The interview preparation steps are a critical portion of the interview process. Further innovative techniques should be developed and evaluated prior to future interviews. Among the recommendations are to provide the interviewees with a short demonstration

of an ASK system, and perhaps a sample of previous interview material. This would help to clarify the intended use of the interview materiel, and might better establish the interviewers' expectations.

3.3 Interview Scheduling

The normal interview rate, of three subjects per day, continued to be followed. About two and a half hours was allocated per interviewee.

Rather than the previous schedule of half an hour for familiarization followed by two hours of interview, however, the current interview process was divided into three distinct phases:

- Half an hour of interviewee familiarization with the process, and identification of appropriate topics for the interview.

- One and a half hours of videotaping.

- Half an hour of post-analysis by the interview team prior to the arrival of the next subject. This added time provided the team with valuable insigh.s for further interview directions.

The new schedule appeared to yield better results.

3.4 Topic Focus

The interview topics during this workshop concentrated primarily on ODS, the USTRANSCOM CAT organization which was used to support ODS planning and operations, and the main crisis-related issues and problems addressed by USTRANSCOM and the TCCs.

The interview results from this workshop appeared to improve, over the previous results. The topic focus was better defined, the interviewers had become more knowledgeable and confident concerning potential topics, and a sense of what material was still needed became more clearly defined.

CHAPTER 4 - OTHER COMMENTS

4.1 Significant Hardware & Software Development

Initial work has begun on developing indexing tools for the video material.

There was no hardware development.

GLOSSARY

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AFB	Air Force Base
CAT	Crisis Action Team
DARPA	Defense Advanced Research Projects Agency
DART	Dynamic Analysis and Replanning Tool
DoD	Department of Defense
FDBM	Functional Database Manager
HQ	Headquarters
ILS	Institute for the Learning Sciences, Northwestern University
MAC	Military Airlift Command
MSC	Military Sealift Command
MTMC	Military Traffic Management Command
ODS	Operation DESERT SHIELD
P&A	Plans and Analysis
PI	Planning Initiative
QA	Quality Assurance
SBT	Story-based Teaching
SISTO	Software and Intelligent Systems Technology Office (DARPA)
SRA	Systems Research and Applications Corporation
TCC	Transportation Component Command (of USTRANSCOM)
USARPAC	U.S. Army, Pacific
USCENTCOM	U.S. Central Command
USEUCOM	U.S. European Command
USTRANSCOM	U.S. Transportation Command

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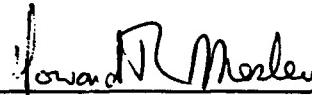
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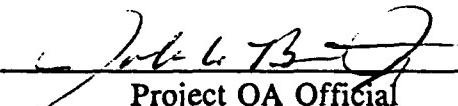
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